

### ABSTRACT

On a carrier surface (CP), a layer of cell surface layer proteins (S-layer proteins) (SU, SM, SL) is produced as a carrier of functional molecules by virtue of a solution containing S-layer proteins in the form of monomers (SU) or oligomers (SM) being brought into contact with the carrier surface. To deposit the S-layer proteins, electrochemical conditions are set in the solution at which the S-layer proteins (SU) have an electrical net charge, and by setting the electrical potential of the carrier surface (CP) an electrochemical potential difference is produced between the solution and the carrier surface under whose effect the S-layer proteins from the solution accumulate on the carrier surface. In the layer formed in this way, a two-dimensional crystalline structure (SL) is then configured, wherein this can occur at a time separate from the deposition of the S-layer proteins and under different electrochemical conditions of the solution and/or the substrate.